

**Abstract:**

The aim of the invention is to improve an existing mixing device in such a manner that for a predetermined reactor length, retention time is increased and the material which is to be processed is transported at essentially the same speed irrespective of the radial distance thereof from the rotational axis. As a result, at least one row of blades is arranged on each shaft and each row of blades comprises at least two individual blades and the blades are fixed to the shaft at an incidence angle  $\alpha$  in relation to the longitudinal axis of the shaft. The blades are curved in themselves, such that the blades form an angle of incidence  $\alpha$  at the fixing point on the shaft and an angle of incidence  $\beta$  on the outer diameter  $D_A$ . By virtue of the fact that a row of individual blades is used instead of a continuous screw, efficient mixing of charging material and coke can be achieved, the angle of incidence is reduced from the inside to the outside and the axial speed of the particles which are to be mixed is evened out on the total cross section of the reactor, thereby enabling a stop-type flow to be obtained.